

Protease Inhibitor Cocktail (EDTA-Free, 100X in H₂O)

Introduction

Endogenous proteins are produced and degraded in equilibrium and therefore their cellular level is stable under stable environmental conditions. Crude cell extracts contain many endogenous enzymes capable of degrading proteins in the extract, such as phosphatases and proteases. When proteins are extracted from cells and tissues in vitro, protein production is significantly inhibited, and degradation increases. The best way to increase intact protein production is to add inhibitors of those enzymes that are known to be present. The protease inhibitor cocktail is used in cell lysates or tissue extracts to improve protein stability.

The product is a ready-to-use water-soluble mixed concentrate containing EDTA, which has broad specificity and can be used as a spectral protease inhibitor mixture. The protease inhibitor cocktail contains several important components, including AEBSF, Aprotinin, Bestatin hydrochloride, E-64, and Leupeptin, which are broadly specific for serine, cysteine, acid proteases, and aminopeptidases. The product can be used for Western Blot, Co-IP, pull-down, IF, IHC, Kinase assay and other experiments.

It is important to note that EDTA inhibits enzyme activity by chelating divalent cations necessary for metalloproteinase activity, so EDTA may affect the activity of other proteins. Pre-experiments may be required in specific experiments to determine whether EDTA has adverse effects. If the protein of interest is to be purified using immobilized metal chelation affinity chromatography (IMAC) or 2D gel electrophoresis analysis is required, EDTA must be removed by extensive dialysis or desalting prior to purification.

This product is supplied as a ready-to-use concentrated solution (100×, in H₂O) with a size of 1 mL. For additional metalloprotease inhibitor components such as EDTA, Cat. No. K4003 can be used alternatively.

Components and Storage

Catalog No.	Product Name	Summary	Targets	CAS Number	Smiles
A2573	AEBSF.HCl	Serine protease inhibitor	Proteases Serine Protease	30827-99-7	<chem>C1=CC(=CC=C1CCN)S(=O)(=O)F.Cl</chem>
A2574	Aprotinin	Inhibitor of bovine pancreatic trypsin	Proteases Serine Protease	9087-70-1	
A2575	Bestatin	Amino peptidase inhibitor	Proteases Amino peptidase	58970-76-6	<chem>CC(C)CC(C(=O)O)NC(=O)C(C(CC1=CC=CC=C1)N)O</chem>
A2576	E-64	Cysteine protease inhibitor, irreversible	Proteases Cathepsin	66701-25-5	<chem>CC(C)CC(C(=O)NCCCCN=C(N)N)NC(=O)C1C(O1)C(=O)O</chem>
A2570	Leupeptin	Inhibitor of serine and cysteine proteases	Proteases Serine Protease	103476-89-7	<chem>O=C(C(C([H])([H])C(C([H])([H])([H])([H])C([H])([H])([H])([H])N([H])C(C([H])([H])([H])=O)N([H])C(C(N([H])C(C([H])=O)([H])C([H])([H])C([H])([H])C([H])([H])N=C(N([H])([H])N([H])([H])=O)([H])C([H])([H])C(C([H])([H])([H])([H])C([H])([H])([H])</chem>
B7197	EDTA	Etalloprotease inhibitor	Proteases Metalloprotease	60-00-4	<chem>OC(CN(CC(O)=O)CCN(CC(O)=O)CC(O)=O)=O</chem>

Stored at -20°C for 12 months.

Protocol

Thaw at room temperature and then add Protease Inhibitor Cocktail to a solution sample (e.g., cell lysate or tissue extract) at 1:100 (v/v) before the experiment.

Note

1. The protease inhibitors contained in this product are harmful to the human body, and attention should be paid to avoid direct contact with the human body during experimental operations.
2. After receiving this product, it can be appropriately aliquoted and stored at -20 °C to avoid repeated freeze-thaw, and added to the lysate when it is taken out when used.
3. The protease inhibitor mixture and lysate are mixed and the next experiment is carried out as soon as possible, and it is not suitable to prepare and freeze for subsequent use.
4. This product is for scientific purposes only.



APEx BIO Technology

www.apexbt.com

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com

